

CLAIMS

5/12/03
1. (Currently Amended) A safety shield system for a needle cannula, said safety shield system comprising:

a clip member having a resilient finger having a free end portion;

a shield having a first portion surrounding said clip member and a second portion having an opening through which the needle cannula may freely pass, said shield being freely movable between a first position, in which said second portion surrounds the needle cannula, and a second position, in which the needle cannula is exposed, said shield having a track defined on an inside surface thereof, said track being sized and shaped to receive said resilient finger, said resilient finger moving in said track as said shield is moved between said first position and said second position, said track having an opening defined through a sidewall of said shield; and

a spring biasing said shield axially to said first position;

B, said free end portion of said finger permitting one-time movement of said shield from said first position to said second position, and from said second position to said first position, said finger being biased to maintain contact between said finger and said sidewall of said shield;

wherein said free end portion of said resilient finger passes freely over said opening defined through said sidewall of said shield as said shield is first moved from said first position to said second position, and wherein said free end portion of said resilient finger passes through said opening when said shield is moved from said second position to said first position, said free end portion interfering with said sidewall to prevent subsequent movement of said shield out of said first position thereby locking said shield in said first position.

2. Cancelled.

3. Cancelled.

4. (Currently Amended) The safety shield system defined in claim 1, wherein said track includes an inwardly projecting resilient finger portion adjacent said opening resiliently biasing said free end portion of said resilient finger inwardly and initially guiding said resilient

finger over said opening when said shield is first moved from said first position to said second position.

5. (Currently Amended) The safety shield system defined in claim 1, further comprising a removable cup-shaped cap initially received over said shield.

6. (Currently Amended) The safety shield system defined in claim 5, wherein said cup-shaped cap is configured to receive and retain said first portion of said shield after use, thereby providing for safe disposal of said safety shield system and needle cannula.

7. (Currently Amended) The safety shield system as defined in claim 6, wherein said cup-shaped cap includes internal radially projecting ribs which receive and retain said first portion of said shield preventing movement of said shield when said cap is located on said shield.

B, 8. (Currently Amended) The safety shield system defined in claim 1, wherein said clip member has a tubular body portion and wherein said finger includes a U-shaped portion integrally connected to said tubular body portion of said clip member.

9. (Currently Amended) The safety shield system defined in claim 8, wherein said spring is a spiral spring having a first end received in said U-shaped portion of said finger, and a second end biased against said shield.

10. (Currently Amended) The safety shield system defined in claim 9, wherein said shield is generally cup-shaped having an open end received around said clip member and a generally closed end having a central opening therethrough receiving the needle cannula.

11. (Currently Amended) A safety shield system for use with a pen injector having a generally tubular body portion for receiving a container of fluid having an open end and a closure in the open end, a needle cannula assembly including a hub and needle cannula extending through the hub and having a first end extending into the pen-type injector body, and a second end extending away from the pen-type injector body for injection and transfer of fluid from the container to a patient, said safety shield system comprising:

a clip member having an end portion comprised of a resilient hook-shaped finger having an outwardly inclined end portion;

a shield having a first portion surrounding said clip member and a second portion having an opening through which the needle cannula may freely pass, said shield being freely movable between a first position, in which said second portion surrounds the needle cannula, and a second position, in which the needle cannula is exposed, said shield having a channel-shaped track defined on an inside surface thereof, said channel-shaped track being sized and shaped to receive said resilient hook-shaped finger, said resilient hook-shaped finger moving in said channel-shaped track as said shield is moved between said first position and said second position, said channel-shaped track having an opening defined through a sidewall of said shield; and

and a spring resiliently biasing said shield axially to said first position;

said free end portion of said hook-shaped finger permitting one-time movement of said shield from said first position to said second position, and from said second position to said first position, said hook-shaped finger being biased to maintain contact between said outwardly inclined end portion and said sidewall of said shield;

wherein said outwardly inclined end portion of said hook-shaped finger passes freely over said opening defined through said sidewall of said shield as said shield is first moved from said first position to said second position, and wherein said outwardly inclined end portion of said hook-shaped finger passes through said opening when said shield is moved from said second position to said first position, said outwardly inclined end portion interfering with said sidewall to prevent subsequent movement of said shield out of said first position thereby locking said shield in said first position.

12. Cancelled.

13. Cancelled.

14. (Currently Amended) The safety shield system defined in claim 11, wherein said channel-shaped track includes an inwardly projecting resilient finger portion adjacent said opening resiliently biasing said outwardly inclined end portion of said hook-shaped finger inwardly and initially guiding said hook-shaped finger over said opening when said shield is first moved from said first position to said second position.

15. (Currently Amended) The safety shield system defined in claim 11, further comprising a removable cup-shaped cap initially received over said shield.

16. (Currently Amended) The safety shield system as defined in claim 15, wherein said cup-shaped cap is configured to receive and retain said first portion of said shield after use, thereby providing for safe disposal of said needle cannula assembly.

17. (Currently Amended) The safety shield system defined in claim 11, wherein said clip member has a tubular body portion and wherein said hook-shaped finger includes a U-shaped portion integrally connected at said tubular body portion of said clip member.

18. (Currently Amended) The safety shield system defined in claim 17, wherein said spring is a spiral spring having a first end received in said U-shaped portion of said hook-shaped finger, and a second end biased against said shield.

19. (Currently Amended) The safety shield system defined in claim 18, wherein said shield is generally cup-shaped having an open end received around said clip member and a generally closed end having a central opening therethrough receiving said needle cannula.

20. (Currently Amended) The safety shield system defined in claim 11, wherein said clip member includes a generally tubular body portion including a plurality of radially extending ribs and said shield includes a plurality of axially extending grooves which receives said ribs, preventing rotation of said shield relative to said clip member and guiding said shield axially between said first and second positions.

21. (Currently Amended) A pen injector and safety shield assembly, comprising:
a pen injector having a generally tubular body portion including an open end;
a needle hub member having a generally tubular body portion received over said pen injector open end;
a needle cannula secured by said needle hub having a first end extending into said tubular body portion of said pen injector and an opposed second end;
a clip member having a resilient finger having a free end portion;
a shield having a first portion surrounding said clip member and a second portion having an opening through which the needle cannula may freely pass, said shield being freely

movable between a first position, in which said second portion surrounds said needle cannula, and a second position, in which said needle cannula is exposed, said shield having a track defined on an inside surface thereof, said track being sized and shaped to receive said resilient finger, said resilient finger moving in said track as said shield is moved between said first position and said second position, said track having an opening defined through a sidewall of said shield; and

a spring biasing said shield axially to said first position;

said free end portion of said finger permitting one-time movement of said shield from said first position to said second position, and from said second position to said first position, said finger being biased to maintain contact between said finger and said sidewall of said shield;

wherein said free end portion of said resilient finger passes freely over said opening defined through said sidewall of said shield as said shield is first moved from said first position to said second position, and wherein said free end portion of said resilient finger passes through said opening when said shield is moved from said second position to said first position, said free end portion interfering with said sidewall to prevent subsequent movement of said shield out of said first position thereby locking said shield in said first position.

22. Cancelled.

23. Cancelled

24. (New) The pen injector and safety shield system defined in claim 21, wherein said track includes an inwardly projecting resilient finger portion adjacent said opening resiliently biasing said free end portion of said resilient finger inwardly and initially guiding said resilient finger over said opening when said shield is first moved from said first position to said second position.

25. (New) The pen injector and safety shield system defined in claim 21, further comprising a removable cup-shaped cap initially received over said shield.

26. (New) The pen injector and safety shield system defined in claim 25, wherein said cup-shaped cap is configured to receive and retain said first portion of said shield after use, thereby providing for safe disposal of said safety shield system and needle cannula.

27. (New) The pen injector and safety shield system as defined in claim 26, wherein said cup-shaped cap includes internal radially projecting ribs which receive and retain said first portion of said shield preventing movement of said shield when said cap is located on said shield.

28. (New) The pen injector and safety shield system defined in claim 21, wherein said clip member has a tubular body portion and wherein said finger includes a U-shaped portion integrally connected to said tubular body portion of said clip member.

29. (New) The pen injector and safety shield system defined in claim 28, wherein said spring is a spiral spring having a first end received in said U-shaped portion of said finger, and a second end biased against said shield.

30. (New) The pen injector and safety shield system defined in claim 9, wherein said shield is generally cup-shaped having an open end received around said clip member and a generally closed end having a central opening therethrough receiving the needle cannula.

31. (New) The safety shield system defined in claim 1, wherein said finger is hook-shaped and includes an outwardly inclined end portion that interferes with said sidewall to prevent subsequent movement of said shield out of said first position thereby locking said shield in said first position.

32. (New) The pen needle and safety shield system as defined in claim 15, wherein said cup-shaped cap includes internal radially projecting ribs which receive and retain said first portion of said shield preventing movement of said shield when said cap is located on said shield.